

*Monograph of the Coleopterous genus CALOCHROMUS of the family
LYCIDÆ: by CHAS. O. WATERHOUSE.*

CALOCHROMUS, Guérin, 1833.

The species of this genus differ from all the other *Lycidæ* (except *Homalidus*) in having the elytra without distinct carinae separated by rows of punctures; the whole surface of the elytra is finely and densely punctured and pubescent, and there are generally two or three obscure raised lines on each elytron. The species of the genus will probably be found to be numerous; some of them very much resemble *Telephorus* in their appearance. The males have the antennæ much longer, and less compressed, than in the females, and the penultimate segment of the abdomen is notched or emarginate at the apex. Before attempting to determine any species it is quite necessary to ascertain the sex of the specimen for which a name is sought.

1. Maxillary palpi very short, thick and compact, the apical joint nearly globular.

C. glaucopterus, Guérin.

Cyaneo-niger, sub-nitidus, thorace elytrorumque basi flavis.
Long $5\frac{1}{2}$ –7 lin.

Hab. Dorey and Waigion. Brit. Mus.

C. scutellaris, Erichs (Pl. II, f. 1).

Niger, nitidus: elytris ferrugineo-flavis, pubescentibus. Long.
4– $5\frac{1}{2}$ lin.

Thorax with a deep mesial channel, deepest behind, with a fine line running through the middle of it, from the anterior to posterior margin; the lateral impressions very deep, the anterior one not separated from the posterior. The elytra are sub-parallel, rusty-yellow, sometimes with the scutellar region black.

Hab. N.W. Australia. Brit. Mus.

C. basalis, n. sp. (Pl. II, f. 2).

Niger, nitidus; elytris dimidio basali ferrugineo, quadricostatis, apicem versus paulo angustatis. ♀. Long. 5 lin.

Closely allied to *C. scutellaris*, but relatively broader; thorax broader, with a deep mesial impression, broader in the middle: there is a deep round fovea at the anterior angle, and a deep impression within the posterior angle, the part between the anterior fovea and the posterior impression raised, so that the impressions are not confluent as in the preceding species. The antennæ are broader than in *scutellaris*, in which the fourth joint is twice as long as broad, whereas in *basalis* it is not more than $\frac{1}{3}$ longer than broad.

Hab. Swan River. Brit. Mus.

C. Guerinii, W. MacLeay.

Cyaneo-niger; thorace elytrisque ochraceis pubescentibus, his apice cyaneo-nigris. Long. $5\frac{1}{2}$ –6 lin.

Hab. Cape York; Rockhampton. Brit. Mus.

One example in the Museum collection has the sutural line of the thorax black; and the apex of the elytra very slightly tipped with blue-black.

II. Maxillary palpi less compactly jointed, apical joint not globular.

* Head visible from above; forehead tuberoze; a narrow space between the eye and the antennal pit.

C. melanurus, n. sp. (Pl. II, f. 3).

Cyaneo-niger, nitidulus; brevissime pubescens; thorace medio canaliculato, ad angulos anticos impresso, intra angulis posticis foveâ rotundatâ impresso, basi marginato; elytris ferrugineo-flavis, dense pubescentibus, prope suturam striatis, interstitiis convexiusculis, apice nigro. Long. $4\frac{1}{2}$ – $7\frac{1}{4}$ lin.

Forehead between the eyes very prominent. Antennæ as long as the elytra, the two basal joints shining, the rest finely punctulate. Thorax very delicately and closely punctured, scarcely pubescent; disc with a fine mesial line, more deeply impressed behind, there is a deep impression at each anterior angle, the posterior angles are rather inflated, and within them

there is a deep impression ; the base is margined. The elytra are rusty yellow, dull and pubescent, bluish-black at the apex, striated near the suture, the interstices rather convex.

Hab. Penang, Java, Sumatra. Brit. Mus.

C. orbatus, n. sp. (Pl. II, f. 4).

Statura omnino præcedentis, differt tamen antennarum articulo tertio longiori ; elytris totis ferrugineis. Long. 5-6½ lin.

This species differs only from *C. melanurus* in having the elytra uniform rusty yellow, and in having the third joint of the antennæ nearly three times as long as its greatest width, whereas in *C. melanurus* it is at most twice as long as broad.

Hab. Philippine Islands, and Darjeeling. Brit. Mus.

** Forehead gently convex ; head generally not visible from above ; margin of the antennal pit contiguous to the eye.

C. apicalis, Hope* (Pl. II, f. 5).

Omalysus apicalis, Hope, Gray, Zool. Miscel. 1831, p. 26.

Niger ; elytris rufis, plagâ magnâ basali nigrâ ; thorace transverso, medio canaliculato, utrinque bimpreso, angulis rotundatis : elytris thorace paulo latioribus, postice parum ampliatis, apice rotundatis, pubescentibus, singulis dorsim lineis quinque impressis, interstitiis angustis convexiusculis ♂. Long. 6 lin., lat. 2½ lin.

Rather a broad species. Antennæ rather stout, half the length of the body, fourth joint as long as the two previous joints taken together, the fifth a little shorter, the sixth and ninth slightly increasing in length, very little compressed, truncate at their apex. Thorax a quarter broader than long, moderately shining, all the angles rounded, especially the anterior, the central impressed line reaching from the posterior to the anterior margins, well defined and of equal depth : on each side are two large deep impressions separated from each other by an oblique ridge. The elytra are at the base a little broader than the thorax, a little wider posteriorly, red, with a black patch extending from the base to the posterior two-thirds, leaving the margins and the apex red ; each elytron has five impressed

* *O. maculicollis* and *O. lineatocollis*. Hope. I.e., are *Telephoridæ*. *O. lineatus*. Hope, is at present unknown to me.

lines, the interstices narrow and slightly convex. The penultimate segment of the abdomen has a trapezoidal emargination at the apex.

Hab. Nepal. Brit. Mus.

The above description is taken from Hope's original specimen.

C. umulus, n. sp. (Pl. II, f. 6.)

Niger, sub-opacus; thorace medio canaliculato, utrinque bimpresso; elytris dimidio basali ferrugineo-flavo, singulis tricostatis. Long. $3\frac{1}{2}$ – $4\frac{3}{4}$ lin.

Head convex, shining, rather closely and excessively finely punctured, rostrum* very short, strongly transverse, at the base of each antenna there is a slight round tumour; mandibles pitchy. Thorax shining, clothed with very delicate grey pubescence only visible in some lights. Elytra densely pubescent, with the basal half rusty-yellow, each with three distinct roof-like costæ, and with an indication of a fourth.

♂ Antennæ nearly as long as the elytra, third joint a little elongate, very obliquely truncate at the apex, fourth joint as long as the two preceding taken together, compressed, broader than the third, the 5th to 10th the same length as the third, the eighth, ninth and tenth diminishing in width, the fifth to eighth with the lower anterior angle a little produced, the eleventh joint a little longer and much narrower than the preceding. Thorax sub-quadrata, rather straight at the sides, arched in front, with a deep mesial longitudinal channel, and on each side two deep foveæ, the raised portion dividing the foveæ oblique. Penultimate segment of abdomen triangularly emarginate at the apex, and with a deep longitudinal mesial channel.

♀ Antennæ $\frac{2}{3}$ the length of the elytra, third joint as broad at its apex as long, fourth to ninth scarcely longer than broad, the tenth a little narrower, eleventh narrowed at the apex. Thorax a little broader than long, rather narrowed in front; the rest as in the male.

Hab. Sarawak (Wallace). Brit. Mus.

*The portion of the head which is in front of the insertion of the antennæ, not strictly a rostrum in this genus, but I use the word as a convenient one.

C. rugatus, n. sp. (Pl. II, f. 7).

Elongatus, niger; elytris piceo-testaceis, dense rubro-sericeis, striis impressis, interstitiis convexiusculis, 2^o et 4^o sub-costatis ♂. Long. $5\frac{1}{2}$ lin.

Head gently convex, impressed on the forehead; rostrum extremely short, space between the antennal pit and base of the mandible about half the diameter of the antennal pit. Antenna about $\frac{2}{3}$ the length of the elytra and (for the genus) rather slender. the sixth to tenth joints slightly diminishing in length, and a trifle more slender, eleventh joint a little longer. parallel, scarcely acuminate at the apex. Thorax black, margined, delicately pubescent, disc transversely impressed behind the middle, deeply impressed in front of and behind the oblique lateral ridge. Penultimate segment of abdomen with a deep incision.

Hab. Allahabad (J. C. Bowring, Esq.). Brit. Mus.

C. ruber, n. sp. (Pl. II, f. 8).

Elongatus, niger supra, piceo-testaceus dense rubro-sericeus; thorace medio longitudinaliter canaliculato, lateribus bifoveatis; elytris minus elongatis unicoloribus, obsolete bicostatis ♀. Long. $5\frac{3}{4}$ lin.

Antennae compressed, third joint as long as the two preceding together, fourth a little longer, truncate at the apex, fifth to ninth nearly the same form, but gradually more obliquely truncate at the apex, so that the lower anterior angle becomes more acute but is not produced, the tenth joint is rather smaller, very obliquely truncate, the eleventh narrow, parallel, acuminate at the apex.

Hab. Allahabad (J. C. Bowring, Esq.). Brit. Mus.

This species is very close to *C. rugatus*, and I thought that it might, perhaps, be the female of that insect, but the lateral oblique ridge of the thorax is placed more posteriorly (see fig.), and the lateral impressions are not so well defined; the space between the antennal pit and the base of the mandible is also much greater.

C. velutinus, n. sp. (Pl. II, f. 9).

Elongatus, piceo-niger, supra piceo-testaceus, dense flavo-rufosericeus; thorace sat transverso, medio canaliculato, utrinque fortiter impresso; elytris obsolete bicostatis; abdomine cyaneo-nigro. Long. $5\frac{1}{2}$ lin.

Rather shorter and broader than the preceding, thorax more transverse, and with the ridge which divides the lateral impression much more directed forwards: rostrum almost none, *i.e.*, the space between the antennal pit and the base of the mandible is less than half the diameter of the pit, whilst in *C. ruber* this space is quite equal to the diameter of the antennal pit. Third joint of the antennæ as long as the first, as long as its greatest width, obliquely truncate at the apex, the fourth joint as long as the two preceding together, a little longer than broad, very little narrowed at the base, straight at the apex, the fifth to tenth about the same length as the fourth, but gradually diminishing in width, scarcely oblique at the apex, their lower anterior angle a little less than a right angle, eleventh joint much narrower, longer, parallel, acuminate at the apex. Thorax $\frac{1}{6}$ broader than long, a little narrowed in front, disc convex, with a rather fine mesial channel, the sides deeply impressed, the usual oblique ridge very much directed forwards, almost parallel with the lateral margin. Elytra very gradually and very little enlarged posteriorly, each with two narrow little raised costæ, with an indication of a third.

Hab. Burmah (J. C. Bowring, Esq.). Brit. Mus.

C. vestitus, n. sp. (Pl. II, f. 10).

Elongatus, postice paulo ampliatus, niger; vix cyaneus: thorace nigro (vel rubro), tenuissime rubro-sericeo; elytris rufo-testaceis, dense rufo-sericeis, bicostatis, apice nigro. ♂ Long. 3-4 lin. ♀ Long. 5-6 lin.

♂ Antennæ about $\frac{2}{3}$ the length of the elytra, moderately broad in the middle, tapering to the apex. Rostrum extremely short, the space between the antennal pit and the base of the mandible about $\frac{1}{3}$ the diameter of the antennal pit. Thorax black, delicately clothed with very fine silky-red pubescence, only visible in certain lights, discoidal channel rather deep, lateral impressions deep and well defined. Sentellum black. Elytra clothed with bright red pubescence; each elytron with two not very prominent costæ; the apex black. Under side and legs black, scarcely tinged with blue. Penultimate segment of abdomen emarginate.

♀ Antennæ rather shorter and broader than in the male. Rostrum a little more prominent, the space between the antennal pit and the base of the mandible about $\frac{1}{2}$ the diameter of the pit. Thorax reddish-yellow, with the sides and mesial line black. Each elytron with three distinct costæ, the apex broadly black.

Var. ♀. Thorax entirely red, pubescence more dense. Elytra bicostate, the costæ narrower.

Hab. Penang (J. C. Bowring, Esq.). Brit. Mus.

C. lepidus, n. sp. (Pl. II, f. 11).

Caruleus, nitidus; thorace vix brevissime pubescenti; disco longitudinaliter fortiter impresso, lateribus bimpressis; elytris picco-testaceis, dense fulvo-rufo-pubescentibus, striis vix perspicue impressis, apice anguste nigro; antennis pedibusque violaceis. Long. $3\frac{1}{2}$ – $4\frac{1}{2}$ lin.

A more slender species than any of the preceding, and distinct by the beautiful shining blue thorax and violet antennæ. The anterior angles of the thorax are much deflexed and, consequently, do not show the margin so distinctly; the disc has not a fine mesial line, but a deep longitudinal impression; the lateral fossæ are deep, but the oblique ridge which divides them is not so well defined as in most of the species.

♂ Antennæ rather slender. Elytra with scarcely any trace of costæ. Penultimate segment of abdomen with a deep incision.

♀ Antennæ very slightly dilated. Thorax more narrowed in front. Elytra bicostate.

Hab. Java (♂), Penang (♀), (J. C. Bowring, Esq.). Brit. Mus.

The two examples are from different localities, but as they agree so well in general character, I have ventured to associate them as sexes.

C. longipennis, n. sp. (Pl. II, f. 12).

Elongatus, sub-parallelus, niger; thorace supra picco, dense rufo-pubescente, medio foveolâ lanceolata impresso, lateribus bimpressis; scutello picco, rufo-pubescente; elytris longissimis, dense rufo-pubescentibus, apice nigris, singulis 2- vel 3-costatis, costis angustioribus ♀. Long $6\frac{1}{4}$ lin., lat. $1\frac{1}{3}$ lin.

Forehead evenly convex, black, very finely pubescent, rostrum about three times as broad as long; maxillary palpi very stout. Antennæ $\frac{3}{4}$ the length of the elytra, compressed, third joint about twice as long as broad, emarginate at the apex, the fourth to ninth joints about equal in length, the lower anterior angle obliquely and much produced, increasingly so as they approach the apex, the tenth joint very oblique, a little

smaller than the ninth, the eleventh compressed fusiform. Thorax a little broader than long, somewhat narrowed in front, all the angles distinct but obtuse, densely clothed with bright red pubescence, disc convex, with a deep lanceolate fovea nearly reaching from the anterior to the posterior margins. Elytra very long, densely clothed with bright red pubescence, the apex black: each with three not very distinct narrow costæ, the outer one very obsolete.

Hab. Sumatra (E. C. Buxton, Esq.). Brit. Mus.

*** Intermediate coxæ (in the male) with a strong spine; base of femur with a strong tooth; tibiæ curved.

C. dispar, n. sp. (Pl. II, f. 13).

Cyaneo-niger, sat nitidus; elongatus, parum convexus; thorace marginato, medio canaliculato, utrinque biimpresso: elytris rufis, dense pubescentibus, postice paulo ampliatis. Long. 6 lin.

This species has somewhat the appearance of *C. orbatus*, but has the elytra more ample behind, less bluntly rounded at the apex, and the thorax is margined all round. The antennæ are nearly as long as the elytra, not very approximate at their base. Clypeus gently emarginate. Intermediate coxæ with a strong acute spine; the femur with a strong tooth near their base; the intermediate and posterior tibiæ strongly curved. The penultimate segment of the abdomen is deeply notched in the middle.

Hab. Borneo. Brit. Mus.